REMARKS

Claims 1-12 are pending in this application. By this Amendment, claims 1, 2 and 6-11 are amended and claim 12 is added. Claim 2 is amended solely to read better and the amendment has no effect on patentability.

In paragraph 3, on page 2 of the Office Action, it was indicated that claims 6 and 7 were objected to as containing informalities. The claims have been amended in reply to the objection. Thus, it is respectfully requested the objection be withdrawn.

In paragraph 8, on page 10 of the Office Action, claim 7 was objected to as being dependent upon a rejected base claim but indicated as allowable if rewritten in independent form including all the features of the base claim and any intervening claims. Applicant gratefully appreciates this indication of allowability. However, Applicant submits such amendment is unnecessary as claim 1 is allowable for the reasons discussed below.

In paragraph 5, on page 3 of the Office Action, claims 1, 2, 4, 5 and 8-11 were rejected under 35 U.S.C. §102(b) as being anticipated by Toyohiko, JP 10-305594. The rejection is respectfully traversed.

Applicant's claim 1 calls for an ink jet printer, comprising a print head having a plurality of ink jet nozzles arranged in plural columns; an ink cartridge containing an ink accommodation chamber having a deformable wall and an air chamber for exerting via the wall air pressure on ink accommodated in the ink accommodation chamber; an ink supply tube connecting the ink cartridge to the print head; an air pump for producing pressurized air for changing a state of ink that is located at a tip portion of each of the ink jet nozzles; an air supply tube for guiding the pressurized air to the air chamber of the ink cartridge; and a maintenance unit including a cap member for covering the print head, wherein the maintenance unit opens the cap member while the air pump supplies pressurized air to the air chamber of the ink cartridge such that the

pressurized air projects the ink in a convex shape from a tip portion of each of the ink jet nozzles.

Applicant's claim 9 calls for an ink jet printer, comprising a print head having a plurality of ink jet nozzles arranged in plural columns; an ink jet cartridge including an ink accommodation chamber having a deformable wall and an air chamber adjoining to the ink accommodation chamber via the wall, the ink accommodation chamber accommodating ink to be supplied to the print head; an ink supply tube connecting the ink cartridge to the print head; an air pump for producing pressurized air for changing a state of ink that is located at a tip portion of each of the ink jet nozzles; an air supply tube for guiding the pressurized air produced by the air pump to the air chamber of the ink cartridge; and a maintenance unit including a cap member for covering the print head and conducting a maintenance of the print head, wherein the maintenance unit opens the cap member while the air pump supplies the pressurized air to the air chamber of the ink cartridge such that the pressurized air projects the ink in a convex shape from a tip portion of each of the ink jet nozzles.

Thus, both claims 1 and 9 call for the maintenance unit opening the cap member while the air pump supplies the pressurized air to the air chamber of the ink cartridge such that the pressurized air projects the ink in a convex shape from a tip portion of each of the ink jet nozzles. Toyohiko does no such thing.

Toyohiko describes, in paragraphs [0054] - [0060], the recovery operation shown in Fig. 4. When the recovery operation command is issued, the cap 4, which is a solid cap (Fig. 5), covers the nozzles 401 of the recording head (S101), and the pump 18 operates after valve 16 is closed (S102, S103) to pressurize the inside of the recording head. This pressure is held for a period of time (S106) and then the pump 18 stops (S107). The valve 16 is opened (S108), which presumably returns the pressure to air pressure, and the rubbing operation is performed

(S109). The cap 4 continues to cover the nozzles 401 for a certain time (S111) and then the wiping operation is conducted and the cap moves downward to open the nozzles (S112).

In describing the rubbing operation (S109) (paragraphs [0069] and [0070]), the inside of the recording head 1 is highly pressurized by the pump 18. Thus, when the nozzles 401 are opened to the ambient air the ink flows from the nozzles 401. A similar disclosure is found in paragraphs [0085] and [0086]. There is no discussion of the actual state of the ink in the nozzles 401 during the wiping operation, i.e., the nozzles are open. That is, when there is pressure applied, the ink in the ink flow path flows out from the nozzles during the rubbing operation.

However, in Applicant's claimed invention, when the air pump provides the pressurized air and the cap member is opened, there is no flow of ink from the nozzles. There is only the creation of the convex shapes. Thus, Toyohiko does not literally disclose the claimed invention and a rejection of claims 1 and 9, as well as claims 2, 4, 5, and 8 depending from claim 1, is improper. Further, Toyohiko does not suggest the subject matter of claims 1, 2, 4, 5, 8 and 9 for the reasons discussed above.

As to claims 10 and 11, claim 10 calls for, in addition to other features, means for opening the print head so as to communicate the ink projecting in a convex shape from a tip portion of each of the ink jet nozzles with the ambient air while the pressurized air is supplied to the ink cartridge; and claim 11 calls for, among other features, opening the print head so as to communicate the ink projecting in a convex shape from a tip portion of each of the ink jet nozzles with the ambient air while the pressurized air is supplied to the ink cartridge. Again, Toyohiko, as described above, discloses no such thing.

There is no description, in Toyohiko, of the state of the ink at the nozzles during the wiping operation. When the pressurized state exists, the ink flows out from the nozzles as discussed above. There is no indication when the cap is opened, in a situation where the ink is

pressurized, that the ink projects in a convex shape from a tip portion of each of the ink jet nozzles when facing the ambient air. Thus, Toyohiko does not literally disclose or suggest the subject matter of claims 10 and 11.

In paragraph 7, on page 8 of the Office Action, claims 3 and 6 were rejected under 35 U.S.C. §103(a) as being unpatentable over Toyohiko. The rejection is respectfully traversed.

Both claims 3 and 6 depend from claim 1. As Toyohiko neither anticipates nor suggests the subject matter of claim 1 for the reasons discussed above, it cannot suggest the subject matter of claims 3 and 6 for those self-same reasons and for the additional features recited therein. Therefore, it is respectfully requested that the rejection be withdrawn.

Claim 12 has been added. Claim 12 states the cap cover covers a head surface, of the print head, formed with ink jet nozzles so as to provide a space between the cap and the head surface. As clearly seen in Fig. 4 of Toyohiko, the cover member 4 is a solid structure and there is no space between the nozzles and the cap member when the cap member is in position over the nozzles. As such, claim 12 is allowable over Toyohiko.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-12 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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